conspicuous dark grey line marking the inner edge of the extradiscal lines. In the hind wings there are two extradiscal dark grey bands, the other lines being represented by faint indications only. Discal spots on all wings black, diffuse ; marginal lines black, very distinct. Legs greyish white, the anterior pair banded with black, posterior pair wanting. Expanse 26 mm.

Type.—One specimen from Pinal Mountains, Arizona, July 9, 1900.

In coloring this species recalls *E. nevadata* Packard, but in the present species the large costal blotch over the discal spot which is so conspicuous in *nevadata* and its allies is wanting. The wings in *helena* are also much rounder, the outer margins being very full. In the shape of the wings and the arrangement of the markings, but not in color, this species rather nearly agrees with *E. togata* (Hübner) of Europe.

Autolyca doylei, a new Phasmid from So. America.

By A. N. Caudell, Washington, D. C.

Male.—Elongate, black, not shining, unarmed ; the entire insect, including the legs and antennæ, covered with inconspicuous, fine, short black hairs. Head as broad as long, the posterior half of the top and sides yellowish ; antennæ black, longer than the body. Pronotum about one-fourth longer than broad ; mesonotum about one and one-half times as long as the pronotum and but slightly longer than the metanotum, including the intermediary segment, which is not quite as long as the metanotum proper. Abdomen apically much swollen and, in the only specimen seen, curved strongly upward ; segments 1-6 quadrate or barely elongate, the three terminal segments transverse ; the scoop-shaped ventral process of the seventh segment is broad and reaches to the tip of the abdomen ; cerci stout, clavate and incurved, as long as the terminal segment of the abdomen and descending from beneath that segment at nearly right angles. Legs black, except the ventral surface of the tarsi, which is yellowish brown ; anterior femora not noticeably curved at the base ; all the tibiæ areolate below and slightly longer than their respective femora and not quite twice as long as their tarsi ; all the femora, as well as the tibiæ, dully and inconspicuously carinate, the posterior femora reaching nearly to the apex of the sixth abdominal segment. Length :—pronotum, 4 mm. ; mesonotum, 5.5 mm. ; metanotum, including the intermediate segment, 5 mm. ; anterior femora, 13 mm. ; intermediate femora, 10.5 mm. ; posterior femora, 15 mm. ; width, head, 3.5 mm. ; pronotum, 3.5 mm. ; basal segment of the abdomen, 3 mm. ; apical segment of the abdomen, 4.25 mm.

Type No. 9629, U. S. Nat. Mus.

One male, taken by C. B. Doyle, at an altitude of 2950 meters at Tierra Adentro, Central Cordillera, Dept. of Cauca, Colombia, South America, headwaters of the Palo River, in January, 1906.

This interesting insect, which is named after the collector, is easily distinguished from the other members of the genus by the elongate form and especially by the coloration of the head.

A Rock-boring Mite.

By Nathan Banks.

In the fall of 1904, Prof. J. H. Comstock sent me some pieces of rocks taken from a limestone cliff that is moistened by the fall of water. The surface contained numerous small cavities or pits of varying sizes. Most of them had a narrowed orifice, and within each pit was found a mite, approximately of the size of the pit. Although, of course, a mite of such habits must be called "*petrophagus*," I have no idea that rock forms any part of its diet. The surface of the stone to a short depth is somewhat softened, doubtless by the action of the water, and it is probable that in the minute holes and passages of this softened area there is growing some tiny plant-organism that forms the food of this cave-digging mite. From all appearances the cavities are caused by the mite, and increase in size with the growth of the acarian. Possibly the mite has some secretion that aids in the destruction of the stone.

Remarkable as are the habits of this mite, its structure, save that it belongs to a rather peculiar genus, is not exceptional. This habit is the necessary consequence of the conditions of its existence, for if the mite should try to live free on the surface of the rock it would be washed away by storms. To escape, therefore, the ravages of the elements it takes to the cyclone cellar. Migration must be performed over the surface of the stone, but it is probable that the young issue at a season when the stone is not subject to heavy storms.

On microscopic examination the mite is seen to belong to the family Oribatidæ, or beetle-mites, and to the genus *Scutovertex* of Michael. We have, at least, one other species of this